

# VTM Connection

## Virginia's Travel Modeling Newsletter

### Upcoming Free Training Opportunities

#### **NHI Course: Uses of Multimodal Freight Forecasting in Transportation Planning**

This is a new course designed for transportation planning professionals who want to learn more about freight forecasting. For more information, please contact Erik Johnson at (804) 371-0811 or e-mail at [erik.johnson@vdot.virginia.gov](mailto:erik.johnson@vdot.virginia.gov)

**When:** March 21<sup>st</sup>-23<sup>rd</sup>, 2006

**Where:** Virginia Transportation Research Council; Charlottesville

#### **FHWA 1-Day Course: Overview of Travel Demand Forecasting**

This course is designed for transportation planning professionals who want to learn more about the usage and application of travel demand forecasting models, but are not hands on modelers. The training will be held at three locations in Virginia. For more information, please contact Paul Agnello at (804) 786-2531 or e-mail at [paul.agnello@vdot.virginia.gov](mailto:paul.agnello@vdot.virginia.gov)

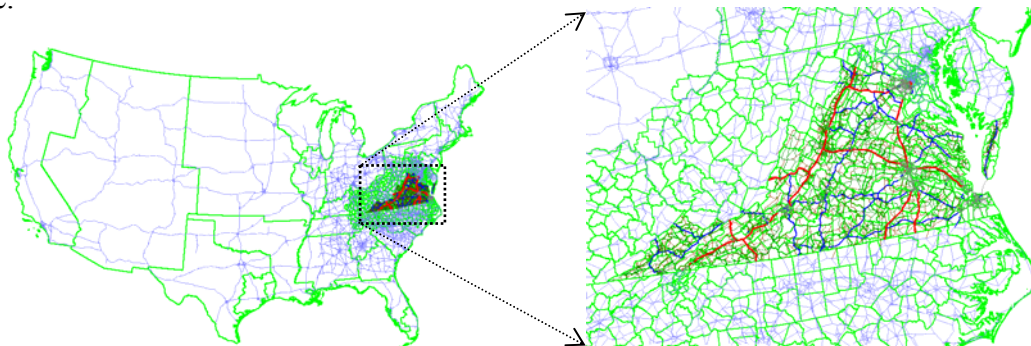
May 2, 2006 - VDOT Northern Virginia District Office; Chantilly

May 9, 2006 – VDOT Richmond District Office; Colonial Heights

May 11, 2006 - Roanoke Valley-Alleghany Regional Commission; Roanoke

### Virginia Statewide Model Presented at the TRB Annual Conference

VDOT staff presented on the I-81 study application of the Virginia Statewide Model (VSM) at the TRB Annual Conference in Washington, DC on January 25<sup>th</sup>. The presentation was part of a session title the “Application of Statewide Travel Demand Forecasting Models” sponsored by the Statewide Multimodal Transportation Planning Committee and Transportation Planning Applications Conference.



## District Highlights on Travel Demand Modeling Activities

No.	VDOT District	District/MPO Area Models	Current/Recent Activities
1	Bristol	Bristol & Kingsport	
2	Salem	Blacksburg & Roanoke	Roanoke model enhanced for 2030 Long Range Plan Update.
3	Lynchburg	Danville & Lynchburg	
4	Richmond	Richmond-Petersburg	Air Quality Conformity Analysis
5	Hampton Roads	Hampton Roads	Model used for toll feasibility study. Planning. Planning to use model for Project Prioritization for next Long Range Plan update.  Air Quality Conformity Analysis
6	Fredericksburg	Fredericksburg	Model being converted from MINUTP to TP+  Model being used for ongoing Congestion Study.  Air Quality Conformity Analysis
7	Culpeper	Charlottesville	Model being used for the US 29 Study.
8	Staunton	Harrisonburg & Winchester	Winchester model used for the Jubal Early Interchange Study.
9	Northern Virginia	MWCOG & Northern Virginia	Model will be used for the US 50 Corridor Study.
10	Central Office	Virginia Statewide Model (VSM)	I-81 study application was presented at TRB in January, 2006.

### Fredericksburg Congestion Study

The Fredericksburg Region, Planning District 16 (RADCO), is the fastest growing region in Virginia. This region includes the counties of Stafford, Spotsylvania, King George, and Caroline, and the City of Fredericksburg. Two of these counties, Stafford and Spotsylvania are among the top five fastest growing counties in Virginia. Between 2000 and 2005, the population in the Fredericksburg Region increased 23 percent, absorbing more than 11 percent of the state's growth.

As a result, an extensive congestion study of the Fredericksburg region is being conducted to identify areas of future growth and congestion. The regional model is being used as a tool to assist in this effort. The results of the study will be used to help guide future planning decisions.

## **Travel Demand Modeling Policies & Procedures Manual Nearing Completion**

VDOT staff is close to completing a first ever Travel Demand Modeling Policies & Procedures Manual to establish consistent minimum standards and guidelines for travel demand model development and application for MPO areas entirely within Virginia. The draft of the manual is being reviewed by the Virginia Travel Modeling (VTM) Working Group. The manual is expected to be completed by the spring of 2006 and will be used to guide the next round of MPO model validations and updates. Look for updates on the manual in the spring edition of VTM Connection.

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## **Model Modifications for Toll Feasibility Study**

A toll feasibility study for Hampton Roads was completed last fall by a team of consultants. The study investigated the feasibility of using toll-based financing as a means to fund several transportation projects in the region. The two primary components of the study involved evaluating the portion of debt service covered by toll revenues and analyzing the toll structure's impact on travel demand.

The region's travel demand forecasting model was modified in order to properly evaluate the impact of the tolls. These modifications included:

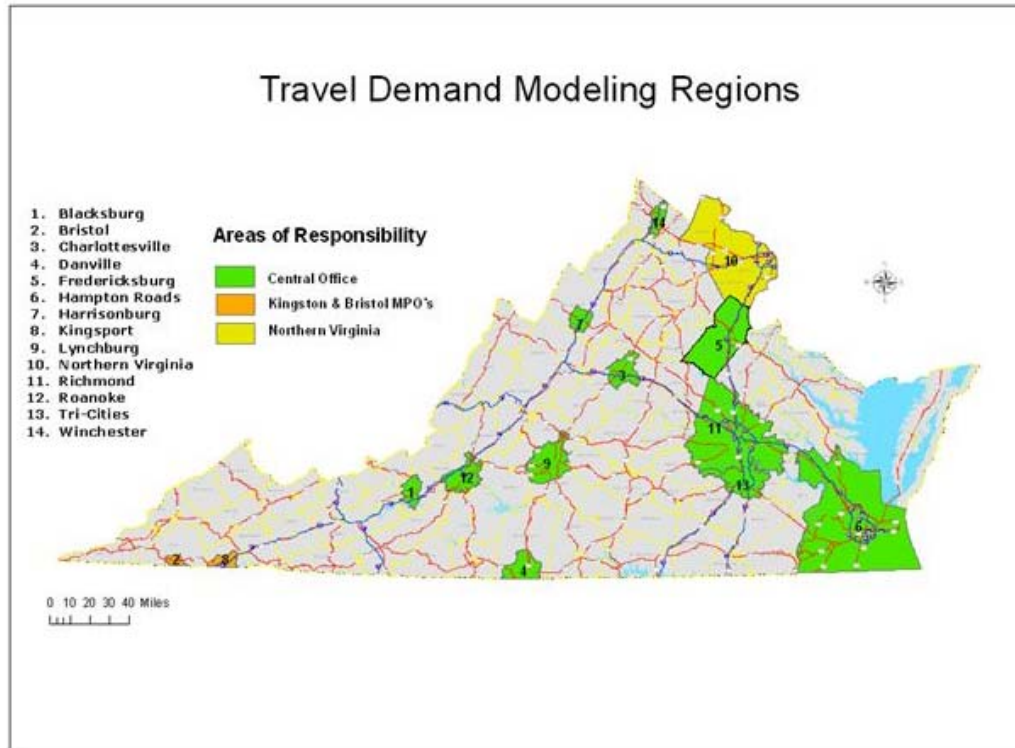
1. Implementation of an auto-convergent feedback loop between trip distribution and trip assignment.
2. Modification of the values-of-time and vehicle operating costs so that they vary by trip purpose.
3. Modification of trip distribution to include a tolls component so that demand orientation is sensitive to the impact of tolls.
4. Modification of highway assignment such that the trip purposes are treated separately and sensitive to values-of-time by purpose.
5. Addition of a peak period volume factor to represent the more congested travel times experienced in the peak period.

Tolling schemes were evaluated for both stand-alone project improvements with tolls, and project improvements with tolls on the project facility and tolls on unimproved parallel routes. Toll values were developed using a variable "value-priced" structure, with toll revenue and roadway patronage considered.

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## **Travel Demand Modeling Software Upgraded**

The Virginia Department of Transportation recently upgraded its Citilabs software from CUBE/TP+ version 3.2 to version 4.0. Version 4.0 contains many new features designed to improve the user interface, enhance network editing and display options, and improve the interface with ESRI software. Citilabs is planning on releasing another major software upgrade called version 5.0 within the next year.



## **VDOT Travel Modeling Contacts:**

### **Travel Demand Modeling:**

Central Office: Paul Agnello (804) 786-2531 or [Paul.Agnello@VDOT.Virginia.gov](mailto:Paul.Agnello@VDOT.Virginia.gov)

Northern Virginia: Bill Mann (703) 383-2211 or [Bill.Mann@VDOT.Virginia.gov](mailto:Bill.Mann@VDOT.Virginia.gov)

## **Key Travel Modeling Websites:**

**VDOT Travel Modeling** (Available for VDOT Intranet Users Only):

<http://insidevdot/Planning/Document%20Library/Transportation%20Modeling%20Website.aspx>

**Hampton Roads PDC Travel Modeling:**

<http://www.hrpdc.org/transport/travdemand.shtml>

**Metropolitan Washington COG Travel Modeling:**

<http://www.mwcog.org/transportation/activities/models/>

**FHWA Travel Model Improvement Program (TMIP):** <http://tmip.fhwa.dot.gov/>